Date: 09-07-2021

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**27.89%**	Not more than 30.00 %
2.	Combined Flakiness and Elongation index, %	**28.36%**	Not more than 35.0 %
3.	Water absorption, %	**0.43 %**	Not more than 2.0 %
4.	Plasticity Index, %	**NP**	Not more than 6.0 %

Asst. Executive Engineer
Project Division
Yelahanka Zone
BBMP, Bangalore - 92

NEWZEN CONSULTANT Bangalore

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EMAIL:newzen576@gmail.com

NC/QC/YPD/2020-21/S-BD1 Date: 22-07-2021

1. TEST REPORT ON BITUMEN SAMPLE:

Sub: Testing of Bitumen sample VG-30 Grade.
{Project*: Improvements and Developments to Shivanahalli village surrounding area in Ward No.01 Yelahanka Constituency.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K. Venkataraju, Bangalore.
Technical Reference: Ministry of Road Transport and Highways, V Revision, 2013 and IS 73: 1992.

TABLE 1.1 ;

SL No	Details	Test Results	Requirements as per I.S 73 –1992 Specifications
1.	Penetration at 25^0 C	**52.40^0 C**	Min. 45
2.	Ductility Value at 25^0 C	**107.90 cm**	40
3.	Flash point	**248^0 C**	Minimum 220^0 C
4.	Softening point	**51.30^0 C**	Min. 47

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Bande Road Ch: 30.00m to 60.00m

Page No. 1/1,

NEWZEN CONSULTANT Bangalore

NC/QC/YPD/2020-21/S-CD1 Date: 22-07-2021

1. TEST REPORT ON COARSE AGGREGATE:

Sub: Testing of Coarse Aggregate used in Dense Graded Bituminous Macadam.
{Project*: Improvements and Developments to Shivanahalli village surrounding area in Ward No.01 Yelahanka Constituency.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K. Venkataraju, Bangalore.

TABLE 1.1 ;

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**23.06%**	Not more than 27.00 % for DBM
2.	Combined Flakiness and Elongation index, %	**26.74%**	Not more than 35.0 %
3.	Water absorption, %	**0.42%**	Not more than 2.0 %
4.	Specific gravity	**2.62**	-------
5.	Soundness	**6.86 %**	Max. 12 % in Sodium Sulphate

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Bande Road Ch: 30.00m to 60.00m

Page No. 1/1,

NEWZEN CONSULTANT Bangalore

NC/QC/YPD/2020-21/S-DBM1 Date: 26-07-2021

1.TEST REPORT ON BITUMINOUS MIXES :
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for DBM mix sample.
{Project*: Improvements and Developments to Shivanahalli village surrounding area in Ward No.01 Yelahanka Constituency.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K. Venkataraju, Bangalore.

Received
Asst. Executive Engineer
Project Division
Yelahanka Zone - 2
BBMP, Bangalore - 64

TEST RESULTS

A. Type of Construction : **Dense Graded Bituminous Macadam.**
1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **4.51 %**

2. **Gradation Test**
TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-10 of MORTH Specfications-2013 DBM (Grading - 2)
37.5	**100**	100
26.5	**97.25**	90-100
19.0	**88.15**	71-95
13.20	**73.40**	56-80
4.75	**46.70**	38-54
2.36	**34.05**	28-42
0.300	**18.90**	7-21
0.075	**5.40**	2-8

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Millinium School Beside Road Ch: 90.00m to 120.00m

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NC/QC/YPD/2020-21/S-DS1

Date: 26-07-2021

1.TEST REPORT ON BITUMINOUS MIXES :
(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for DBM mix sample.
{Project*: Improvements and Developments to Shivanahalli village surrounding area in Ward No.01 Yelahanka Constituency.}

Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K. Venkataraju, Bangalore.

Asst. Executive Engineer Project Division Yelahanka Zone BBMP, Bangalore

TEST RESULTS

Table 1: Properties of DBM (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Dense Bituminous Macadam, Grade-2 as per M.o.R.T&H (IV Revision)-2001 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1248**	900
2	Marshall Flow at 60°C, mm.	**3.36**	2.0 - 4.0

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Millinium School Beside Road Ch: 90.00m to 120.00m

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EMAIL:newzen576@gmail.com

NC/QC/YPD/2020-21/S-DBM2 Date: 27-07-2021

1.TEST REPORT ON BITUMINOUS MIXES :

(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for DBM mix sample.

{Project*: Improvements and Developments to Shivanahalli village surrounding area in Ward No.01 Yelahanka Constituency.}

Ref.: Material testing/PMC/19-20,

Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Sri. K. Venkataraju, Bangalore.

Asst. Executive Engineer Project Division Yelahanka Zone BBMP, Bangalore - 92

TEST RESULTS

A. Type of Construction : **Dense Graded Bituminous Macadam.**

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **4.52 %**

2. **Gradation Test**

TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-10 of MORTH Specfications-2013 DBM (Grading - 2)
37.5	**100**	100
26.5	**96.40**	90-100
19.0	**83.55**	71-95
13.20	**74.60**	56-80
4.75	**48.10**	38-54
2.36	**34.80**	28-42
0.300	**19.25**	7-21
0.075	**6.15**	2-8

The result of the materials tested meets the standards and hence can be used for the work.

Sample Collected Site : Petrol Bunk Beside Rd

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NC/QC/YPD/2020-21/S-DS2 Date: 27-07-2021

1.TEST REPORT ON BITUMINOUS MIXES :
(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for DBM mix sample.
{Project*: Improvements and Developments to Shivanahalli village surrounding area in Ward No.01 Yelahanka Constituency.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K. Venkataraju, Bangalore.

Asst. Executive Engineer, Project Division, Yelahanka Zone, BBMP, Bangalore - 92

TEST RESULTS

Table 1: Properties of DBM (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Dense Bituminous Macadam, Grade-2 as per M.o.R.T&H (IV Revision)-2001 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1256**	900
2	Marshall Flow at 60°C, mm.	**3.44**	2.0 - 4.0

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Petrol Bunk Beside Rd

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NC/QC/YPD/2020-21/S-DBM3 Date: 02-08-2021

1.TEST REPORT ON BITUMINOUS MIXES :
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for DBM mix sample.
{Project*: Improvements and Developments to Shivanahalli village surrounding area in Ward No.01 Yelahanka Constituency.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K. Venkataraju, Bangalore.

Asst. Executive Engineer
Project Division
Yelahanka Zone
BBMP, Bangalore

TEST RESULTS

A. Type of Construction : **Dense Graded Bituminous Macadam.**

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **4.51 %**

2. **Gradation Test**

TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-10 of MORTH Specfications-2013 DBM (Grading - 2)
37.5	**100**	100
26.5	**96.15**	90-100
19.0	**84.25**	71-95
13.20	**75.35**	56-80
4.75	**44.70**	38-54
2.36	**36.05**	28-42
0.300	**17.90**	7-21
0.075	**6.15**	2-8

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Cross Rd-1

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NC/QC/YPD/2020-21/S-DS3 Date: 02-08-2021

1.TEST REPORT ON BITUMINOUS MIXES :
(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for DBM mix sample.
{Project*: Improvements and Developments to Shivanahalli village surrounding area in Ward No.01 Yelahanka Constituency.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K. Venkataraju, Bangalore.

Asst. Executive Engineer, Project Division, Yelahanka Zone, BBMP, Bangalore - 59

TEST RESULTS

Table 1: Properties of DBM (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Dense Bituminous Macadam, Grade-2 as per M.o.R.T&H (IV Revision)-2001 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1260**	900
2	Marshall Flow at 60°C, mm.	**3.52**	2.0 - 4.0

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Cross Rd-1

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NC/QC/YPD/2020-21/S-DBM4 Date: 03-08-2021

1.TEST REPORT ON BITUMINOUS MIXES :
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for DBM mix sample.
{Project*: Improvements and Developments to Shivanahalli village surrounding area in Ward No.01 Yelahanka Constituency.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K. Venkataraju, Bangalore.

Asst. Executive Engineer Project Division Yelahanka Zone BBMP, Bangalore

TEST RESULTS

A. Type of Construction : **Dense Graded Bituminous Macadam.**

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **4.51 %**

2. **Gradation Test**

TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-10 of MORTH Specfications-2013 DBM (Grading - 2)
37.5	**100**	100
26.5	**95.25**	90-100
19.0	**87.15**	71-95
13.20	**71.40**	56-80
4.75	**46.70**	38-54
2.36	**33.05**	28-42
0.300	**19.80**	7-21
0.075	**6.40**	2-8

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Millinium School Beside Road Ch: 0.00m to 30.00m

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NC/QC/YPD/2020-21/S-DS4 Date: 03-08-2021

1.TEST REPORT ON BITUMINOUS MIXES :
(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for DBM mix sample.
{Project*: Improvements and Developments to Shivanahalli village surrounding area in Ward No.01 Yelahanka Constituency.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K. Venkataraju, Bangalore.

Asst. Executive Engineer Project Division Yelahanka Zone BBMP, Bangalore - 92

TEST RESULTS

Table 1: Properties of DBM (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Dense Bituminous Macadam, Grade-2 as per M.o.R.T&H (IV Revision)-2001 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1250**	900
2	Marshall Flow at 60°C, mm.	**3.44**	2.0 - 4.0

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Millinium School Beside Road Ch: 0.00m to 30.00m

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NC/QC/YPD/2020-21/S-DBM5 Date: 06-08-2021

1.TEST REPORT ON BITUMINOUS MIXES :

(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for DBM mix sample.

{Project*: Improvements and Developments to Shivanahalli village surrounding area in Ward No.01 Yelahanka Constituency.}

Ref.: Material testing/PMC/19-20,

Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Sri. K. Venkataraju, Bangalore.

Asst. Executive Engineer, Project Division, Yelahanka Zone, BBMP, Bangalore - 92.

TEST RESULTS

A. Type of Construction : **Dense Graded Bituminous Macadam.**

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **4.52 %**

2. **Gradation Test**

TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-10 of MORTH Specfications-2013 DBM (Grading - 2)
37.5	**100**	100
26.5	**97.45**	90-100
19.0	**84.55**	71-95
13.20	**71.60**	56-80
4.75	**47.10**	38-54
2.36	**34.80**	28-42
0.300	**17.25**	7-21
0.075	**5.15**	2-8

The result of the materials tested meets the standards and hence can be used for the work.

Sample Collected Site : Bande Road Ch: 229.70m to 259.70m

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EMAIL:newzen576@gmail.com

NC/QC/YPD/2020-21/S-DS5 Date: 06-08-2021

1.TEST REPORT ON BITUMINOUS MIXES :
(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for DBM mix sample.
{Project*: Improvements and Developments to Shivanahalli village surrounding area in Ward No.01 Yelahanka Constituency.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K. Venkataraju, Bangalore.

Asst. Executive Engineer Project Division Yelahanka Zone BBMP, Bangalore - 92

TEST RESULTS

Table 1: Properties of DBM (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Dense Bituminous Macadam, Grade-2 as per M.o.R.T&H (IV Revision)-2001 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1258**	900
2	Marshall Flow at 60°C, mm.	**3.46**	2.0 - 4.0

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Bande Road Ch: 229.70m to 259.70m

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EMAIL:newzen576@gmail.com

NC/QC/YPD/2020-21/S-BB1 Date: 26-07-2021

1. TEST REPORT ON BITUMEN SAMPLE:

Sub: Testing of Bitumen sample VG-30 Grade.
{Project*: Improvements and Developments to Shivanahalli village surrounding area in Ward No.01 Yelahanka Constituency.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K. Venkataraju, Bangalore.
Technical Reference: Ministry of Road Transport and Highways, V Revision, 2013 and IS 73: 1992.

TABLE 1.1 ;

SL No	Details	Test Results	Requirements as per I.S 73 –1992 Specifications
1.	Penetration at 25^0 C	**51.60^0 C**	Min. 45
2.	Ductility Value at 25^0 C	**108.0 cm**	40
3.	Flash point	**236^0 C**	Minimum 220^0 C
4.	Softening point	**50.40^0 C**	Min. 47

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Millinium School Beside Road Ch: 183.70m to 187.50m

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EMAIL:newzen576@gmail.com

NC/QC/YPD/2020-21/S-CB1 Date: 26-07-2021

1. TEST REPORT ON COARSE AGGREGATE:

Sub: Testing of Coarse Aggregate used in Bituminous Concrete.
{Project*: Improvements and Developments to Shivanahalli village surrounding area in Ward No.01 Yelahanka Constituency.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K. Venkataraju, Bangalore.

Asst. Executive Engineer Project Division Yelahanka Zone BBMP, Bangalore

TABLE 1.1 ;

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**22.86 %**	Not more than 24.00 %
2.	Combined Flakiness and Elongation index, %	**27.54 %**	Not more than 35.0 %
3.	Water absorption, %	**0.42%**	Not more than 2.0 %
4.	Specific gravity	**2.62**	-------
5.	Soundness	**5.39%**	Max. 12 % in Sodium Sulphate

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Millinium School Beside Road Ch: 183.70m to 187.50m

Page No. 1/1,

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NC/QC/YPD/2020-21/S-BC1

Date: 30-07-2021

1.TEST REPORT ON BITUMINOUS MIXES :
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for BC mix sample.
{Project*: Improvements and Developments to Shivanahalli village surrounding area in Ward No.01 Yelahanka Constituency.}

Ref.: Material testing/PMC/19-20,

Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Sri. K. Venkataraju, Bangalore.

Asst. Executive Engineer Project Division Yelahanka Zone BBMP, Bangalore-63

TEST RESULTS

A. Type of Construction : **Bituminous Concrete**

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **5.43 %**

2. **Gradation Test**

TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-17 of MORTH Specfications-2013 BC (Grading - 2)
19.0	**100**	100
13.2	**96.25**	90-100
9.5	**83.10**	70-88
4.75	**63.50**	53-71
2.36	**55.25**	42-58
1.18	**46.35**	34-48
0.600	**32.75**	26-38
0.300	**24.60**	18-28
0.150	**17.25**	12-20
0.075	**8.15**	4-10

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Petrol Bunk Beside Rd

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EMAIL:newzen576@gmail.com

NC/QC/YPD/2020-21/S-BS1

Date: 30-07-2021

1.TEST REPORT ON BITUMINOUS MIXES :
(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BC mix sample.
{Project*: Improvements and Developments to Shivanahalli village surrounding area in Ward No.01 Yelahanka Constituency.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K. Venkataraju, Bangalore.

Asst. Executive Engineer, Project Division, Yelahanka Zone, BBMP, Bangalore - 92

TEST RESULTS

Table 1: Properties of BC (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Bituminous Concrete, Grade-2 as per M.o.R.T&H (V Revision)-2013 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1368**	900
2	Marshall Flow at 60°C, mm.	**3.56**	2.0 - 4.0

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Petrol Bunk Beside Rd

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EMAIL:newzen576@gmail.com

NC/QC/YPD/2020-21/S-BC2 Date: 31-07-2021

1.TEST REPORT ON BITUMINOUS MIXES :
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for BC mix sample.
{Project*: Improvements and Developments to Shivanahalli village surrounding area in Ward No.01 Yelahanka Constituency.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K. Venkataraju, Bangalore.

Asst. Executive Engineer Project Division Yelahanka Zone - 92

TEST RESULTS

A. Type of Construction : **Bituminous Concrete**
1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **5.41%**

2. **Gradation Test**
TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-17 of MORTH Specfications-2013 BC (Grading - 2)
19.0	**100**	100
13.2	**96.25**	90-100
9.5	**84.10**	70-88
4.75	**63.45**	53-71
2.36	**55.80**	42-58
1.18	**43.70**	34-48
0.600	**32.50**	26-38
0.300	**24.60**	18-28
0.150	**18.25**	12-20
0.075	**7.40**	4-10

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Bande Road

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NC/QC/YPD/2020-21/S-BS2 Date: 31-07-2021

1.TEST REPORT ON BITUMINOUS MIXES :
(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BC mix sample.
{Project*: Improvements and Developments to Shivanahalli village surrounding area in Ward No.01 Yelahanka Constituency.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K. Venkataraju, Bangalore.

Asst. Executive Engineer Project Division Yelahanka Zone BBMP, Bangalore - 92

TEST RESULTS

Table 1: Properties of BC (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Bituminous Concrete, Grade-2 as per M.o.R.T&H (V Revision)-2013 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1354**	900
2	Marshall Flow at 60°C, mm.	**3.42**	2.0 - 4.0

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Bande Road

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NC/QC/YPD/2020-21/S-BC3 Date: 09-08-2021

1.TEST REPORT ON BITUMINOUS MIXES :
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for BC mix sample.
{Project*: Improvements and Developments to Shivanahalli village surrounding area in Ward No.01 Yelahanka Constituency.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K. Venkataraju, Bangalore.

Asst. Executive Engineer Project Division Yelahanka Zone BBMP Bangalore

TEST RESULTS

A. Type of Construction : **Bituminous Concrete**
1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **5.43 %**

2. **Gradation Test**
TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-17 of MORTH Specfications-2013 BC (Grading - 2)
19.0	**100**	100
13.2	**96.25**	90-100
9.5	**84.10**	70-88
4.75	**66.50**	53-71
2.36	**54.25**	42-58
1.18	**43.60**	34-48
0.600	**32.75**	26-38
0.300	**22.60**	18-28
0.150	**16.25**	12-20
0.075	**7.15**	4-10

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Cross Rd-1

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NC/QC/YPD/2020-21/S-BS3 Date: 09-08-2021

1.TEST REPORT ON BITUMINOUS MIXES :
(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BC mix sample.
{Project*: Improvements and Developments to Shivanahalli village surrounding area in Ward No.01 Yelahanka Constituency.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K. Venkataraju, Bangalore.

Asst. Executive Engineer Project Division Yelahanka Zone BBMP Bangalore - 92

TEST RESULTS

Table 1: Properties of BC (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Bituminous Concrete, Grade-2 as per M.o.R.T&H (V Revision)-2013 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1364**	900
2	Marshall Flow at 60°C, mm.	**3.52**	2.0 - 4.0

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Cross Rd-1

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NC/QC/YPD/2020-21/S-BC4 Date: 10-08-2021

1.TEST REPORT ON BITUMINOUS MIXES :
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for BC mix sample.
{Project*: Improvements and Developments to Shivanahalli village surrounding area in Ward No.01 Yelahanka Constituency.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K. Venkataraju, Bangalore.

Asst. Executive Engineer Project Division Yelahanka Zone BBMP, Bangalore - 92

TEST RESULTS

A. Type of Construction : **Bituminous Concrete**
1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **5.41%**

2. **Gradation Test**
TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-17 of MORTH Specfications-2013 BC (Grading - 2)
19.0	**100**	100
13.2	**95.25**	90-100
9.5	**83.10**	70-88
4.75	**65.45**	53-71
2.36	**52.80**	42-58
1.18	**45.70**	34-48
0.600	**32.50**	26-38
0.300	**24.60**	18-28
0.150	**18.25**	12-20
0.075	**6.40**	4-10

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Millinium School Beside Road Ch: 123.70m to 153.70m

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NC/QC/YPD/2020-21/S-BS4 Date: 10-08-2021

1.TEST REPORT ON BITUMINOUS MIXES :
(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BC mix sample.
{Project*: Improvements and Developments to Shivanahalli village surrounding area in Ward No.01 Yelahanka Constituency.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri. K. Venkataraju, Bangalore.

Asst. Executive Engineer Project Division Yelahanka Zone BBMP Bangalore - 92

TEST RESULTS

Table 1: Properties of BC (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Bituminous Concrete, Grade-2 as per M.o.R.T&H (V Revision)-2013 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1358**	900
2	Marshall Flow at 60°C, mm.	**3.44**	2.0 - 4.0

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Millinium School Beside Road Ch: 123.70m to 153.70m

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